

SECONDARY AMINE MANNICH DETERGENTS

Abstract of the Disclosure

New, highly effective detergent/dispersants for use in spark-ignition fuels comprising Mannich condensation products formed from (i) at least one substituted hydroxyaromatic compound having on the ring both (a) an aliphatic hydrocarbyl substituent derived from a polyolefin having a number average molecular weight in the range of about 500 to about 3000, and (b) a C₁₋₄ alkyl; (ii) at least one secondary amine; and (iii) at least one aldehyde are described. Carrier fluids such as poly(oxyalkylene) compounds further enhance the effectiveness of these Mannich condensation products in minimizing or reducing intake valve deposits and/or intake valve sticking.